

Claims

- [c1] 1. A dual-implanted gate, comprising:
 - a stack structure on a substrate, the stack structure comprising a polysilicon bottom layer, a barrier layer and a metallic layer, the metallic layer being surrounding by the barrier layer; and
 - a spacer formed on the stack layer over the substrate, the stack structure being enclosing by the spacer.
- [c2] 2. A dual-implanted gate, comprising:
 - a plurality of stack structures on a substrate, each of the stack structure comprising a polysilicon bottom layer, a barrier layer and a metallic layer, the metallic layer being surrounding by the barrier layer; and
 - a plurality of spacers formed on the stack layers over the substrate, each of the stack structure being enclosing by the corresponding one of the spacers.
- [c3] 3. A dual-implanted gate on a substrate, comprising:
 - a plurality of gate structure on the substrate, with a gate layer thereon, wherein
 - each gate structure comprises a polysilicon bottom layer, a metallic layer, and a barrier layer formed between the polysilicon bottom layer and the metallic layer and sur-

rounding the metallic layer ,and each stack structure belongs to a first group or a second group, wherein the first group consists of stack structures implanted with first type ions and the second group consists of stack structures implanted with second type ions; and a plurality of spacers, wherein each spacer enclosed a corresponding stack structure.

- [c4] 4. The method of claim 3, wherein the barrier layer includes a titanium/titanium nitride composite layer.
- [c5] 5. The method of claim 3, wherein the metallic layer includes a tungsten layer.
- [c6] 6. The method of claim 3, wherein the first type ions includes p-type ions and the second type ions includes n-type ions.